Integrating Automated Patient Letter Generation into the Electronic Medical Record

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This poster describes the design and functionality of StarLetter, an electronic patient letter generation tool. StarLetter is integrated into the new results feature of the electronic medical record front end allowing the clinicians to generate electronic letters to patients within their workflow.

Introduction

There is an increasing recognition about patients' role in the management of their disease[1]. Adequate understanding of patients of their health conditions enables patients to be more actively involved in their health care. Despite this, there are numerous reports which show that patients are not satisfied with the information they receive[2]. Cimino et al. addressed this issue by developing a patient clinical information system (PatCIS) that allows patients to have access to their own medical record. They found that patients used the system mainly to review their laboratory test results. PatCIS usage yielded high patient satisfaction, and patients reported that it improved their health care by enabling them to take a more active role[3]. Sending detailed letters to patients summarizing the results of their laboratory tests is another way to keep patients informed about their health condition. In this poster, we describe the design and functionality of StarLetter, a tool that enables clinicians electronically create letters to patients explaining the results of their most recent laboratory tests very efficiently and within their workflow.

Functionality and Design

StarLetter is integrated into the institutional patient information management system, StarPanel. StarPanel is a web based front end to the electronic patient chart, outpatient appointments and inpatient census, and the communication tools that support more efficient communication among the members of the health care team. In addition to access to individual patient records, it allows efficient and simultaneous access to groups of patients (user specified panels). Its *new results* feature displays the recent (unseen) laboratory test results and all clinical documents for all patients on a selected panel.

StarLetter is a collection of Common Gateway Interface (CGI) programs. Clinicians access StarLetter via a set of links on the right hand side of each new laboratory result or clinical document (See Figure). By clicking on StarLetter links 'general', 'specific', and 'comment', clinicians can import customizable general phrases, specific laboratory results from the medical record, and personalized comments about the associated laboratory result or clinical document, respectively. Since StarLetter is accessed from StarPanel's new results, generation of electronic patient letters is completely in the clinician's workflow. The clinician can compile the electronic letter as he/she reviews the most recent lab results for a particular patient.

With StarLetter patient letters are generated on a patient by patient basis and stored in the user's session file on the server side in XML format. Clicking on the 'Preview Pt.Letter' link at the end of each patient's new results list instantiates MS Word on the client side, displaying the contents of the letter. Clinicians do final editing on the letter displayed in MS word, if necessary, and save the final letter to the patient's medical record and their secretary's print queue at the same time.
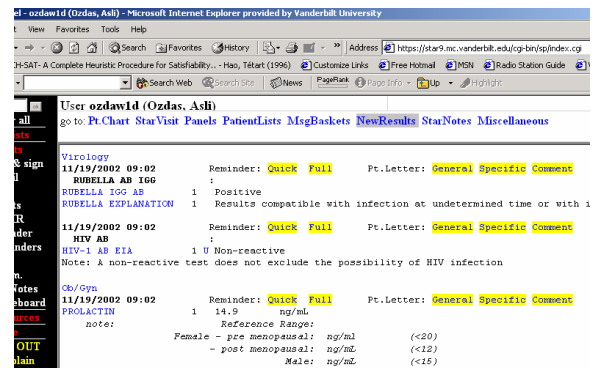

Figure: The StarLetter interface from new results in StarPanel. Standard phrases, specific laboratory results, and personalized comments are imported in the letter by clicking on the Pt.Letter links.

Discussion and Future plans

StarLetter is currently being piloted at the Vanderbilt University Medical Center adult primary clinic. Improvements to functionality are being made based on user feedback. As a part of our evaluation plans, we will assess patient satisfaction regarding computer generated letters before and after the deployment of StarLetter. It is anticipated that StarLetter will enhance the quality of physician-patient communication about laboratory test results and their interpretation, and improve patients' awareness of their health condition.

References

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